The Small Patent Law Group LLP
Phone: (314) 584-4081
Fax: (314) 584-4061

CERTIFICATE OF FACSIMILE TRANSMISSION TO THE UNITED STATES PATENT AND TRADEMARK OFFICE

DATE: April 30, 2007

	:	**RE: Resubmission of Appeal Brief in Response to Notice of Improper Request**
Mail Stop: AF	:	**Serial No.: 10/659,156**
Art Unit: 2831	:	**Applicant: Michael Wayne Bricker et al.**
Fax: 571-273-8300	:	**Filed: September 10, 2003**
From: Dean D. Small		
The Small Patent Law Group LLP		
	:	**Atty. Dkt. No.: 18013 (SPLG 43)**
		Title: CABLE JACKET WITH INTERNAL SPLINES

DOCUMENTS SUBMITTED WITH TRANSMISSION:

- **Facsimile Transmittal (1 pg.)**
- **Appeal Brief Request for Review**
  (resubmitted in Response to Notice of Improper Request (5 pgs)

Total pages including cover page: 6

If all pages are not received, please contact: Kimberly Sansone at 314-584-4086

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Date: April 30, 2007

Dean D. Small, Reg. No.: 34,730

TYCO 18013 (20958-43)
PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Michael Wayne Bricker et al.	:	
	:	Art Unit: 2831
Serial No.: 10/659,156	:	
	:	Examiner: Nguyen, Chau N.
Filed: September 10, 2003	:	
	:	
For: CABLE JACKET WITH INTERNAL SPLINES	:	

PRE-APPEAL BRIEF REQUEST FOR REVIEW

(Resubmitted in Response to Notice of Improper Request)

Mail Stop: AF
Commissioner for Patents
Post Office Box 1450
Alexandria, Virginia 22313

Applicant resubmits the present request for pre-appeal review of the FINAL Office Action in the above-identified application. The original Pre-Appeal Brief Request for Review was submitted on March 8, 2007, along with a Notice of Appeal, from which the period to file the Appeal Brief continues to run. On April 19, 2007, a Notice of Panel Decision was mailed indicating that, because the original request exceeded 5 pages in length, a conference was not yet held. Today, April 30, 2007, the undersigned spoke with Mr. Dean Reichard, the Supervisory Patent Examiner for Art Unit 2831 and a participant in the April 19 Notice of Panel Decision. Mr. Reichard indicated that, in order to correct the request, the undersigned should re-file the request limited to 5 or fewer pages. Mr. Reichard further indicated that, upon receipt of the corrected request, a conference would be held. Mr. Reichard is thanked for speaking today with the undersigned and for providing the above guidance.

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Remarks

Claims 1-22 remain pending. In a FINAL Office Action dated November 11, 2006, the Examiner rejected claims 1–22 under 35 USC Section 103(a) as being unpatentable over Despard (6,310,295) (hereafter "Despard") in view of Wentworth (GB 725,624) (hereafter "Wentworth"). After considering the outstanding rejection, as set forth in the FINAL Office Action and maintained in an Advisory Action mailed February 2, 2007, Applicant submits that a prima facie case of obviousness has not been established.

It is submitted that the outstanding Office Action fails to set forth a prima facie case of obviousness as it lacks a legitimate motivation for one of ordinary skill to modify Despard's data cable in a manner that would render obvious the claimed invention. The primary reference to Despard would not suffer the problems reasoned in the Office Action as motivation for one of ordinary skill to modify Despard based on the teachings of Wentworth. In the Office Action, it is acknowledged that Despard does not suggest adding to the jacket, at least one spline projecting inward from the inner surface of the jacket. Yet the Office Action maintains that it would have been obvious to add Wentworth's ribs projecting inward from the inner surface of Despard's jacket. The Office Action sets forth three motivations to modify Despard, namely i) to provide a cable having an improvement in the case of stripping, ii) to provide air channels for cooling around the insulated wires, and iii) to increase the flexibility of the cable.

It is submitted that the reasons in the Office Action are without merit because Despard does not suffer from the problems nor disadvantages that Wentworth seeks to overcome. Wentworth (filed in 1953) teaches a construction for a power cable based on 1953 technology, whereas Despard (filed in 1999) teaches a construction for a data cable based on 1999 technology. The materials, manufacturing techniques, and performance requirements (both physical and electrical) at the time of Despard's invention are much more refined, developed and advanced, as compared to those available and known in 1953 at the time of Wentworth's invention. Therefore, it does not necessarily follow that Wentworth's power cabling problems, circa 1953, would be experienced by Despard's data cable, circa 1999. One cannot ignore the fact that 46 years separate the filing dates of Wentworth and Despard. Yet, no one chose to apply Wentworth's rib construction to a jacket of a twisted pair data cable, before or since Despard, until the present application.

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Beginning with the "stripping" motivation, namely to provide a cable having an improvement in the case of stripping, the data cable of Despard would not suffer from cracking or tearing during stripping as described in Wentworth. Wentworth describes an insulated wire that has a core including a conductor with a covering of plastic enclosed within an adjacent layer of the same or similar plastic material. Wentworth explains that, in conventional cables, the core insulation is damaged when the outer layer of insulation is removed. Wentworth indicates that the damage to the core insulation occurs due to adhesion between the inner and outer layers of plastic material. The adhesion between layers of plastic produces tearing and cracking of the inner layer as the outer layer is drawn away (column 1, lines 13-23). Wentworth addresses this problem by forming shallow ribs on the inner surface of the outer layer "so that the touching of the two layers is reduced to substantially line contacts." Wentworth goes on to explain that the line contact arrangement minimizes the area of contact between the two layers, so that if adhesion between them should occur, the likelihood of damage to the inner layer when stripping away the outer layer is greatly reduced (column 2, lines 77-82).

Despard's data cable would not experience adhesion between the twisted pairs and the cable housing jacket 30 because the twisted pairs 10, due to their helical geometry, do not have large areas of continuous contact with the jacket 30. In Despard, the twisted pairs 10 only touch the jacket 30 at separate and discrete points, namely in the separate portions of each twisted pair that are exposed and located adjacent to the inner surface of the jacket 30. As the twisted pair 10 propagate along the length of the jacket 30, each twisted pair helically rotates which, by its very nature, ensures substantial portions of each twisted pair 10 are separated from the inner surface of the jacket 30. Therefore, due to the helical geometry of a twisted pair configuration, Despard's data cable would already experience substantially less direct contact between the twisted pair 10 and the jacket 30. When the amount of contact, that is created by the line contact geometry of Wentworth, is compared to the amount of contact, that already exists in the point contact geometry of Despard, it is clear that Despard already provides a very segmented contact arrangement between the twisted pairs and the jacket which is even more advantageous than Wentworth's line contacts. Thus there is no reason, need, nor advantage in adding Wentworth's ribs to Despard's jacket 30.

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Further, Despard's data cable would not experience adhesion simply because the insulator on the twisted pairs 10 and the jacket 30 are formed from dissimilar materials. The jacket 30 is make of rubber, plastic or polymer. The insulator on the twisted pairs 10 is formed from a polyethylene or fluoropolymer. Polyethylene and fluoropolymer insulators have very different properties and much higher melting points (e.g., over 700° F) than those of the rubber, plastic or polymer (e.g., under 400° F) forming the jacket 30. Because the twisted pairs 10 use insulation formed of a material that is very dissimilar from the material of the jacket 30, no adhesion would be experienced. Further, fluoropolymers (e.g., Teflon) used to form the insulation on the twisted pair 10 are extremely resistant to sticking to other materials, and are very tough. Thus, the twisted pairs 10 are covered in a material that is particularly well-suited to avoiding adhesion and to avoid tearing.

Next, turning to the "cooling" motivation, the data cable of Despard would not suffer from heating during manufacture as described in Wentworth. Despard's data cable is formed in a manner that does not need additional air cooling during the manufacture. Nor is there any indication that the addition of Wentworth's ribs would increase the amount of air cooling that would be of any use during the manufacturing process of Despard. Wentworth discusses at page 2, column 1, lines 4-6 that the effect of adding the ribs further reduces the risk of adhesion during manufacture by cooling that is provided by the existence of the air channels 13 between the inner and outer layers. However, Despard's cable would not experience such heating during manufacture. As clearly shown in each and every cross section of Despard's data cable, there is significant air space already provided within the jacket 30 surrounding the twisted pairs 10. Adding ribs to the jacket 30 would not introduce additional air space, nor improve the air cooling properties of Despard's data cable. Further, Despard's twisted pairs 10 are formed separately from, and before extrusion of, the jacket 30 there over. The melting point of the polyethylene or Teflon fluoropolymer insulation used by Despard is significantly higher than that of the jacket. Therefore, heating would not be an issue during manufacture of Despard's data cable as compared to Wentworth's power cable.

Finally, turning to the "flexibility", namely to provide a cable having improved flexibility, the data cable of Despard would not suffer from rigidity problems as described in Wentworth. There is no indication in Despard, nor Wentworth, that Wentworth's ribs would

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change the flexibility of Despard's cable. The flexibility of Wentworth's cable is limited because the inner and outer insulation layers are made of PVC or a similarly inflexible material. The flexibility of Wentworth's cable is further limited if adhesion occurs between the inner and outer layers. In contrast, Despard uses polyethylene or fluoropolymer insulation on the twisted pairs 10, which is substantially more flexible than PVC and does not adhere to PVC. Thus, there is no suggestion in the prior art that Wentworth's ribs would have any impact upon the flexibility of Despard's cable.

In view of the foregoing, it is respectfully submitted that the pending claims define allowable subject matter and reversal of the outstanding Office Action is respectfully requested.

Respectfully Submitted,

Date: April 30, 2007

Dean D. Small, Reg. No. 34,730
THE SMALL PATENT LAW GROUP LLP
611 Olive Street, Ste. 1611
St. Louis, MO 63101
(314) 584-4081